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ORIGINAL ARTICLES.

CONCERNING MUSCULAR ADVANCEMENT.[1]

BY LUCIEN HOWE, M.D., OF BUFFALO, N. Y.

The methods of advancement of the ocular muscles have been varied so much in their details, that it would be out of place in a paper before an audience not entirely made up of students of ophthalmology, to treat all of these modifications separately. At present, therefore, I wish to call attention to two or three points in this connection. Every one knows, of course, that this operation for the relief of strabismus consists in loosening from the point of its insertion into the sclerotic a muscle which is too weak, and bringing it forward, to attach it nearer the cornea. The fact that this procedure is, by some operators, avoided when possible, and that when resorted to the average results are by no means satisfactory, shows that the technique of it has not yet been properly formulated. In this state of uncercainty, therefore, it seems worth while to offer any further suggestions, however simple.

As the first step, I think, the opposing muscle should be

[1] Read before the New York State Medical Society.

divided, certainly when the degree of strabismus exceeds two or more lines. As the operation is usually made to correct a divergence which has resulted from too free tenotomy of the internal rectus, the first act is naturally to divide the external rectus. It may seem superfluous to mention this, so general has been the adoption of that plan, but, on the other hand, I know that it is not followed by some operators whose reputation for skill is otherwise unquestioned.

Second. It is of importance to retain a hold on the muscle to be advanced, for if not, this retracts into the surrounding tissue and it is virtually impossible to find it. Various methods have been employed to obviate this difficulty. One of the simplest consists in introducing two or three stitches either in the line of the attachment of the muscle or at the upper and lower edges at right angles to it, and after the division is made, using these threads for drawing the muscle forward into its place. Theoretically, this is a very attractive method, but practically it necessitates considerable loss of time, and as a general anesthetic is usually necessary in these cases, the operator is too often interrupted by the restlessness or vomiting of the patient. In order to do away with this, DeWecker long ago proposed a clamp with which the tendon of the muscle could be retained after being once isolated. This simplified the operation, but it was soon found that the clamp was clumsy and that if the patient struggled after it was once introduced, it was sometimes necessary to relax the hold obtained, thus defeating the very object for which it was used. In order to do away with this objection, it seemed advisable to have the clamp made very short and light, in order that having once been fixed in position, it could be left, irrespective of the movements of the patient.

Such a clamp I had made some few years ago and it has proved so useful at various times, that simple as it is, it seems worth while to call attention to it now. It consists of nothing more than a pair of forceps about an inch long, with crossed branches, the clamp portion about a quarter of an inch long, turned at right angles and provided with three teeth, which fit

corresponding depressions on the opposite branch. The whole is made as light, and the spring as strong, as possible.

After the tendon is exposed, the smooth blade of the forceps is passed under the muscle and its end firmly clamped, leaving sufficient space without difficulty. This having been done, the operator can take his own time in dividing the tendon, introducing the stitches, resecting a portion of the muscle if necessary—or in general, he is able to manipulate the muscles with perfect ease, and if, meanwhile, he is interrupted by the struggles or vomiting of the patient, the clamp is simply left in place, it being so small as to give no inconvenience whatever.

The next point to which I would direct attention, is the introduction of the stitches. I have tried different plans and have gradually come to the conclusion that the best results can be obtained by a modification of the method first advised by Dr. Prince, of Jacksonville, Ill., and called by him the loop suture. It is well known that he introduces one stitch parallel to the line of the incision in the conjunctiva,—that is, tangent to the cornea and almost touching it, and that the two ends of this thread are then tied together. Next, a thread is armed with two needles, each being passed through the muscle from within outward, transfixing that and the conjunctiva also and the two ends of the stitch are tied, after one end has passed through the loop near the cornea. The muscle is in that way brought forward. If found that the correction is too great, the stitch can be loosened, or if the correction is not sufficient, the muscle is drawn a corresponding distance further forward by tying the stitch tighter.

Theoretically, this is almost the ideal operation, but practically there are two great objections to it. The muscle is apt to slip upward or downward as the loop stretches in various directions. Thus it is impossible to foretell with exactness whether the muscle will not attach itself a little too far upward or downward on the globe, giving subsequently a proportional displacement. The second disadvantage of this method is in the puckering of the conjunctiva, not infrequently an unsightly projection being left over the point where the muscle is attached to the globe. I have found that both of these difficulties could be obviated by arranging the stitches differently.

First, a stitch is introduced at the same place and in the same manner as he suggested, and then, being tied in the center at the point nearest the cornea, the needle is again placed under the conjunctiva at that point and this end of the thread is tied with the other end of the same suture. In other words, the one loop is then divided into two and it forms what might be called a "B"-shaped loop.

Second. In order to draw the muscle forward, two stitches are used. One passes from the upper edge of the muscle and corresponding part of the conjunctiva, and being passed through the upper part of the opening of "B"-shaped loop. The lower stitch is passed in the same way through the lower edge of the muscle and then through the lower portion of the "B"-shaped loop. Then, by tying the corresponding ends of these two stitches above and below, the muscles brought securely into the position which it should occupy, neither too far above nor below. Moreover, as it then rests closely upon the sclerotic, there is either no projection of the conjunctiva, or so small a fold as may be easily removed.

In spite of all precautions, it must be admitted that the operation does not give uniformly good results. I have been convinced of this both by a considerable series of cases in my own private practice, in which different methods have been tried, and especially by studying the results reached by some

of the most enthusiastic advocates of the operation. In selected cases, of course, we all obtain a large proportion of beautiful results, but so long as in the average there is so much to be desired, any improvement on the operation technique, however slight, seems worthy of record.

A CASE OF RECURRENT ŒDEMA OF THE UPPER EYELID AS A SYMPTOM OF NASAL POLYPUS.

BY JOHN DUNN, M.D., OF RICHMOND, VA.

Miss A., æt. 19, gave the following history: About two

weeks before coming under treatment, the upper lid of her

right eye became suddenly red and swollen, without this condition being accompanied by any pain. She had applied hot applications with the result that after some hours the swelling disappeared. The present swollen condition of the upper lid had appeared about two days before, and apparently without cause. Hot applications this time failed to reduce the swelling. The appearance presented by the upper eyelid is well shown in the cut (from a photograph taken at the time). The œdema seemed to affect only the loose connective tissue below the skin of the upper lid, which was considerably swollen. The surface of the upper lid was rather erythematous in appearance than showing the dark red inflammation. The eyelid was not painful, and was inconvenient only because of its "weight." There was no sign of any localized inflammation to cause this condition. An examination of the nasal cavities showed that the anterior part of both middle turbinates was undergoing myxomatous degeneration, and that both were so enlarged as to entirely occlude the space between the septum and the outer wall of the nasal cavity, and that both were the source of polypi which extended some distance below the middle turbinates. The middle turbinate on the right side was, however, the larger of the two. As much of the degenerated middle turbinates as could be removed at one sitting was snared off, and by the next day the œdema had disappeared. The explanation of this œdematous condition is probably to be sought in a vaso-motor paresis of the vessels to the upper lid, a reflex from the area irritated by the myxomatous middle turbinate of this side.

SOCIETY PROCEEDINGS.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

THURSDAY, MARCH 10, 1892.

HENRY POWER, F.R.C.S., PRESIDENT, IN THE CHAIR.

THE MINUTE ANATOMY OF PYRAMIDAL CATARACT.

Mr. Treacher Collins read a paper based upon the microscopical examination of six eyeballs. The cases formed a series in which the interval between the formation of the cataract and the excision of the eye varied from six weeks to twenty-one years. The earliest changes consisted of a localized disturbance and proliferation of the epithelial cells which line the hyaline capsule at the anterior pole of the lens, and consequently some elevation of the capsule. The lens fibers immediately beneath these proliferated cells underwent partial destruction, resulting in a shallow excavation of the lens substance at this point. Pyramidal cataracts of longer duration were found to have a layer of cells between the opaque part and the subjacent unaltered lens substance. These were continuous with, and apparently derived from, the cells lining the anterior capsule elsewhere. In two cases of some years' duration there was, between the opacity and the lens substance, in addition to the layer of cells, a layer of hyaline capsule, presumably secreted by the cells. Mr. Collins thought these observations helped to explain the readiness with which the pyramidal opaque portions sometimes became detached on being touched with a needle; for such a touch only completed

a separation which had already been partially effected by natural means. He considered that they also threw some light on the development of the lens capsule; for if the epithelial cells lining it were capable, on the application of a morbid stimulus, of secreting a hyaline layer identical in all respects with it, the inference that the capsule was originally formed by such a secretion seemed a reasonable one. Mr. Collins challenged the statement which had been made, "that in the majority of cases pyramidal cataract was found associated with a perfectly transparent cornea." This, he thought, could only be proved or disproved by the pathological examination of a large number of eyes with opaque corneæ, and he questioned if this had been done by those responsible for the above assertion. In his six cases the cornea was the seat of old or commencing opacity. The paper was illustrated by lantern slides made from photomicrographs.

Mr. Tweedy spoke of the rarity with which opportunities occurred for the microscopical examination of pyramidal cataract. He showed a sketch he made many years ago of the appearances of the lens capsule in a case in which perforation of the cornea and escape of the lens occurred during ophthalmia neonatorum. He was of the opinion that inflammatory material was first deposited on the lens capsule, and set up an intra-capsular cell proliferation. He demurred to Mr. Collin's view that the lens capsule was entirely produced by the cells lining it, and thought that this organ was partly epiblastic, partly mesoblastic. He had only once seen a case of pyramidal cataract with perfectly clear corneæ.

Mr. Nettleship had on one occasion examined sections of a lens with pyramidal cataract, and found that the capsule passed in front of the opacity. He was unable to say if the capsule was split into two layers, as in some of Mr. Collins's specimens.

Mr. Collins, in reply, said that he would divide cases of opacity at the anterior pole of the lens into several groups, and to only one of these could the term pyramidal cataract be properly applied. He maintained that the structure of the

lens capsule and the character of the diseases which affected it were evidence of its epiblastic origin.

THE PHYSICAL FACTOR IN CONICAL CORNEA.

Mr. Tweedy presented this communication to the Society, in extension of some remarks he had made at the previous meeting. He said that several hypotheses had been brought forward in explanation of the cause of this curious disease; there were:

1. Increased intra-ocular pressure.
2. Malnutrition and atrophy of the central part of the cornea.
3. Diminished resistance power.
4. An inherent weakness of the corneal structure.

He thought the last hypothesis was most in conformity with observed facts, and this inherent weakness he considered was best explained by imperfect completion of the developmental processes. In early fœtal life the gap in the embryonic cornea, caused by the involution which gave origin to the lens, was filled up by cells, beneath which was a homogeneous layer. Into this layer an intrusion of mesoblastic tissue took place, and extending centripetally, gradually closed over the central part, which was, however, the last part to be formed. This mesoblastic tissue was the fœtel cornea, and the physical factor of conical cornea consisted in imperfect growth of the central portion of this layer. No other explanation, he thought, would account for the conical shape assumed by the cornea when thus diseased.

The President asked if Mr. Tweedy's hypothesis would explain the onset of keratoconus in adult life.

Mr. Brailey mentioned that he had once made a microscopic examination of a portion of conical cornea removed by operation, and found a small cavity just beneath the epithelial layer. He referred to the fact that conical cornea in some cases developed for a time, then appeared to become stationary, and subsequently underwent rapid increase.

In reply, Mr. Tweedy said he did not wish to exclude the

agency of other factors in the causation of conical cornea, but merely to draw attention to what he thought was the true physical factor.

LIVING AND CARD SPECIMENS.

Dr. Rockliffe (Hull)—Case of Unilateral Proptosis.

Mr. Hartridge—Case of Double Lacrymal Fistula, probably congenital.

Mr. Work Dodd—Scleroderma of Lower Eyelid and Cheek.

Dr. D. J. Wood—1. Diseases of Retina and Choroid with Detachment of Retina; 2. Double Congenital Coloboma in Fundus.

Mr. Tay—Bleaching of Eyelashes and Eyebrows in Sympathetic Irido-cyclitis.

Mr. Lawford—Reversible Spectacle-Frame.

Mr. Holmes Spicer—Keloid in Scars of Herpes Ophthalmicus.

Mr. Wray—New Vascular Growth in Vitreous.

—*Ophth. Review.*

NEWS.

AN ACT FOR THE PREVENTION OF BLINDNESS.

Through the kindness of Dr. F. T. Rogers we are enabled to give the following item to our readers.

State of Rhode Island and Providence Plantations. Chapter 1056. Passed April 19, 1892. It is enacted by the General Assembly as follows:

Duties of Midwife or Nurse.

Section 1. Should any midwife or nurse, or person acting as nurse, having charge of an infant in this State, notice that one or both eyes of such infant are inflamed or reddened at any time within two weeks after its birth, it shall be the duty of such midwife or nurse, or person acting as nurse, so having charge of such infant, to report the fact in writing within six hours to the health officer, or some qualified practitioner of medicine, of the city or town in which the parents of the infant reside.

Duties of Health Officer.

Section 2. Every health officer shall furnish a copy of this act to each person who is known to him to act as midwife or nurse in the city or town for which such health officer is appointed, and the Secretary of State shall cause a sufficient number of copies of this act to be printed, and supply the same to such health officers on application.

PENALTY.

SECTION 3. Every person who shall fail to comply with the provisions of this act shall be fined not exceeding one hundred dollars, or imprisoned not exceeding six months, or both.

SECTION 4. This act shall take effect July 1, 1892.

OFFICE OF THE SECRETARY OF STATE,
Providence, R. I., May 11, 1892.

A true copy, Attest:

GEO. H. UTTER, Secretary of State.

MEMORIAL PAVILION TO DR. ABRAM DU BOIS.

The family of the late Dr. Abram Du Bois have announced to the Trustees of the New York Eye and Ear Infirmary their intention of presenting the sum of $80,000 for the erection of a new pavilion as a memorial of Dr. Du Bois, who for nearly fifty years was attending and consulting surgeon to the Institution, and was always one of its most devoted friends and munificent benefactors.

THE SECTION OF OPHTHALMOLOGY OF THE PAN-AMERICAN MEDICAL CONGRESS.

This Section has been organized with Dr. Julian Chisolm, of Baltimore, Chairman, and Dr. George M. Gould, editor of the *Medical News*, of Philadelphia, Pa., English speaking Secretary.

SELECTIONS.

NOTES ON PLASTIC OPERATIONS ABOUT THE EYELIDS.[1]

BY J. MORRISON RAY, M.D.,

Lecturer on Ophthalmology, University of Louisville.

The parts about the eyelids, on account of their great vascularity, present a fertile field for the employment of the surgeon's ingenuity in relieving deformities by plastic operations. Under modern surgical methods large portions of skin can be successfully transposed bodily to the eyelids, and extensive deformities can be corrected by sliding, twisting, and pedicled flaps. A number of operations of this character are described and pictured in books on ophthalmology and general surgery. Yet most deformities about these parts differ so in the amount of distortion present that each case is a study in itself, and can not always be corrected by following the stereotyped operation. During the last few years I have seen several cases calling for surgical interference for the relief of unsightly deformities in this locality. Two such cases I have presented to this Society. They were cases of extensive burns of the entire side of the face, in which there was so much cicatricial tissue that no operation of a shifting or sliding nature could be considered. In one I transplanted a piece from the arm, and, while most of the flap adhered in its new position, the contraction that followed very much lessened the ultimate good result. In the other case the edge of the lids were freshened,

[1]Read before the Louisville Medico-Chirurgical Society, April, 1, 1892.

dissected up, and brought together by interrupted stitches. In a few days, when the surface left after the dissection began to granulate, transplantation of small particles of skin from distant parts was instituted, and the granulating surface covered. This case was an extreme one, and the result all that could be desired, relieving the patient of an acquired morphine habit and curing a large ulcer, which had developed from exposure of the cornea and inability to close the eye during sleep. Besides these cases I have encountered a number of less severity that were relieved by the ordinary methods in vogue. At the last meeting of the American Ophthalmological Society cases were reported wherein the method of Thiersch was adopted, and I have been on the lookout for a case in which I could try it. This consists in covering the granulating surface with flaps of epidermis shaved off very thin with a razor; several pieces can be employed to cover one surface. The advantage claimed for it is, that the pieces are more apt to adhere than when the entire thickness of the skin is used, and the contraction that follows is much less. The entropion and trichiasis that follow cicatrization of the conjunctiva in the late stages of granulated lids is often a difficult condition to remedy, and, upon examination of the text books and current literature, one is amazed at the number of methods advised for its relief. Where the ingrowing of the lashes is the most prominent symptom, the operation most often instituted is a partial or complete removal of the hair bulbs, so-called scalping of the lid. This barbarous mutilation, practiced so extensively as a recognized surgical procedure, should be relegated to obscurity, since it rarely accomplishes the purpose for which it was intended. I have only attempted it once, and my experience in this case and observing the results in the hands of others, I believe it should never be instituted. In its stead I have tried electrolysis where the hairs were few in number or scattered throughout the length of the lid, and transplantation where the inturning was extensive.

In a case where simply one large bunch of cilia turned against the cornea I tried a method successfully that I have

tried several times, yet can find no record of it in literature. It consists in splitting the free edge of the lid back of and corresponding with the location of the offending lashes. After the hemorrhage has stopped and the incision is made to gap well, I have inserted small pieces of skin removed from the arm, thus introducinc a wedge that will nearly always live and form a support that effectually pushes the lashes away from the cornea.

Where the trichiasis is more extensive I have instituted the well-known operation of Jaesche-Arlt. This consists in splitting the lid along its free edge, well back of the hair bulbs, then removing an elliptical piece of skin from the outer surface of the lid and by stitches closing the wound, thus drawing the strip containing the lashes well up, and allowing the incision along the free edge of the lid to gap widely and heal by granulation. This operation will fail where the tissues of the upper lid are abundant and lax, for the contraction in the conjunctiva will continue, and in a short time, to our dismay, the lashes are again found rubbing against the cornea.

I have recently operated on a case in which there was intense trichiasis with much redundant tissue and laxity about the lid; I first cut the external canthus, hoping that by dividing the external canthal ligament I would lessen the tendency to to incurving of the edge of the lid, and thus carry the lashaway from the cornea. This, however only had a slight effect, and I then performed the following operation: The incisions were the same as in the Jaesche-Arlt operation, which I have just described, yet when the elliptical piece of skin was dissected up it was left attached at its base, the sutures were introduced and then the flap was turned and placed in the gap along the free edge of the lid. Only a few stitches were required to hold the flap in the new position. In a few days it had firmly united, then it was cut off at its base and the stitches removed. Now, only two weeks after the operation, there is found a support for the lashes and effectually preventing them from coming in contact with the cornea. As contraction goes on the ridge now visible will lessen and the lashes will assume

their normal position, yet be prevented from touching the cornea. I was surprised at the readiness and quickness with which the narrow strip of skin adhered to its new position.

Usually in addition to the ingrowing lashes we have an inturning of the edge of the lid, so-called entropion, and then the operator must aim at a restoration of the lid border as well as the cilia. The modification of Von Burow's operation by Green has seemed to me to be the most effectual. In this operation an incision is made on the conjunctival surface of the lid about two lines from its free edge, extending from the outer to the inner corner. It includes both conjunctiva and tarsus. Then on the skin surface an elliptical piece is removed and a number of deep sutures are introduced, going through the orbicular muscle, and in tying them the edge of the lid is turned as far out as possible. The cut on the conjunctival surface gaps, and is left to granulate. This operation will also fail if there is an abundance of lax tissue in the lid. I think that this operation can be modified in the same manner as the one I have described, namely, the elliptical piece of skin left attached at its base, and be twisted into the gap on the conjunctival surface. The objection to it would be that the piece transplanted is skin and the gap to be filled is in mucous membrane. I believe that if its base be cut as soon as we are certain of its viability, that in a short time it would be transposed into mucous membrane. I once saw the late Dr. Agnew transfer a piece of skin from the outer surface of the lid into the orbit and make a *cul-de-sac* for the purpose of retaining an artificial eye. The case, when I last saw it, showed evidence in the flap of transformation going on from skin into mucous membrane. This is most likely to occur if the connection to the skin by the base be cut as soon as evidence of life in the flap is shown. I have attempted several operations in transplanting mucous membrane in the treatment of symblepharon, or adhesions between the eyeball and eyelid, but my success has not been such as to call for particular comment.—*American Practitioner and News.*

A PICTURE OF HEREDITARY NYSTAGMUS.

BY CASEY A. WOOD, C.M., M.D.,

Professor of Ophthalmology, Chicago Post-Graduate Medical School; Oculist and Aurist, Alexian Brothers' Hospital.

The origin of that clonic spasm of the ocular muscles which is commonly designated nystagmus is wrapped in a mystery as impenetrable as any one has to deal with in the whole range of pathology. The natural history of the affection teaches us, among other things:

1. That it is nearly always associated with some central brain, or spinal lesion, or some cause of deteriorated vision, such as errors of refraction, albinism, diseases of the ocular media, etc.

2. It may be acquired in adult life, but

3. Is usually congenital, or develops in infancy or early childhood.

4. It commonly persists through life, and

5. Its hereditary character has not been established.

Most writers[1] assign one or, at most, two sets of causes to the various forms of nystagmus, but the evidence before us surely points to at least five kinds of origin:

1. The acquired variety—with or without refractive errors, muscular weakness, or pre-existing disease of the eye itself, the best example of which is seen in miners—certainly points to a purely peripheral origin. It is one of the "professional" hyperkineses and is exactly like piano player's spasm and the tremulous form of writer's cramp. The unsteadiness in such instances usually disappears when the overworked muscles are given a sufficient rest.

[1]An elaborate paper on this subject is E. Raehlmann's "Ueber den Nystagmus und seine Ætiologie." Graefe's Archiv. f. Ophthalmologie, Bd. vxiv, iv, p. 237.

2. It is almost certainly the result of *anomalous or defective cerebral development* in those congenital cases where the eye is otherwise healthy and the vision normal.[2] It also has a central origin in instances where other brain malformations are plainly marked

3. When it accompanies such central diseases as multiple sclerosis, Friedreich's disease, etc., it is, in all likelihood, merely a symptom of the associated affection.

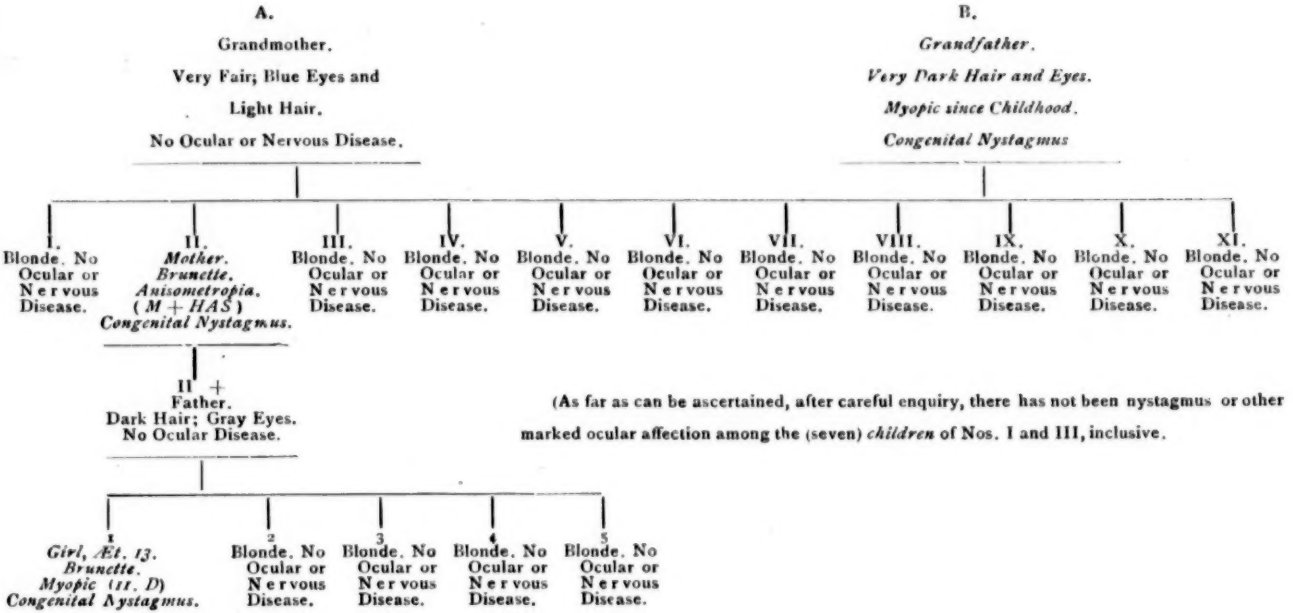
4. As Noyes says, the nystagmic movements are due in some cases to the absence of a motive for binocular fixation. The muscular region is then not more sensitive to form impressions than surrounding retinal areas, and the eyes see equally well (or badly) in whatever position they may assume. In this category I would place nystagmic albinoes.

5. Probably in the majority of instances the nystagmus results from a combination of some of the foregoing causes.

In view of the doubts[3] thrown upon the hereditary character of nystagmus, I place in evidence the following genealogical table. To date, twenty-three children and grandchildren have resulted from the marriage of A, a pronounced blonde, with perfectly healthy eyes and nervous system, and B, a decided brunette with myopia, healthy (?) nervous system, and *congenital nystagmus. Of these twenty-three descendants two only (only daughter and one granddaughter), are brunettes. These are the subjects of marked congenital nystagmus; the others are healthy in all respects.* It is only on the assumption of an arrested or anomalous development of the oculo-motor, or coordinating centers, inherited from ancestor B in common with the dark hair, the dark eyes and the tendency to myopia, that one can explain such a striking array of facts. I am indebted to the courtesy of Dr. A. L. Cory, of this city, for an opportunity of studying the above cases.

[2]Vide Raehlmann's Cases 26 and 27, and several by A. Graefe, G. & S. Handbuch Bd. vi, i.

[3]Graefe's words (l. c. p. 229) are "ob auch ein eigentlicher nystagmus adnatus workommt, muss dahingestellt bleiben."


A.
Grandmother.
Very Fair; Blue Eyes and
Light Hair.
No Ocular or Nervous Disease.
B.
Grandfather.
Very Dark Hair and Eyes.
Myopic since Childhood.
Congenital Nystagmus
I. Blonde. No Ocular or Nervous Disease.
II. Mother. Brunette. Anisometropia. (M + HAS) Congenital Nystagmus.
III. Blonde. No Ocular or Nervous Disease.
IV. Blonde. No Ocular or Nervous Disease.
V. Blonde. No Ocular or Nervous Disease.
VI. Blonde. No Ocular or Nervous Disease.
VII. Blonde. No Ocular or Nervous Disease.
VIII. Blonde. No Ocular or Nervous Disease.
IX. Blonde. No Ocular or Nervous Disease.
X. Blonde. No Ocular or Nervous Disease.
XI. Blonde. No Ocular or Nervous Disease.
II + Father. Dark Hair; Gray Eyes. No Ocular Disease.
1 Girl, Æt. 13. Brunette. Myopic (11. D) Congenital Nystagmus.
2 Blonde. No Ocular or Nervous Disease.
3 Blonde. No Ocular or Nervous Disease.
4 Blonde. No Ocular or Nervous Disease.
5 Blonde. No Ocular or Nervous Disease.

(As far as can be ascertained, after careful enquiry, there has not been nystagmus or other marked ocular affection among the (seven) *children* of Nos. I and III, inclusive.

NOTE ON CONGENITAL NYSTAGMUS.

BY ADOLF ALT, M.D., ST. LOUIS, MO.

On June 21, 1882, I was consulted by J. G., M.D., then 33 years old, from a neighboring town, on account of nystagmus horizontalis and poor vision. There was congenital hypermetropia, the correction of which raised vision from $^{20}/_{L}$ to $^{20}/_{XXX}$.

When inquiring into the ætiology of the nystagmus the doctor gave me the following family data:

His grandparents were both myopic. They had five children, two boys and three girls. Of these the boys and one girl had nystagmus; the remaining girls' eyes seemed normal.

One of these two boys had, at the time of the examination, eight children, three of whom had nystagmus, five not.

The one daughter with nystagmus had three sons, all of whom had nystagmus.

One of the sons of this daughter had two children which were free from nystagmus.

Further details my case-book does not afford.

THE USE OF BICHLORIDE OF MERCURY IN THE TREATMENT OF OPHTHALMIA NEONATORUM.

Cohn (*Lehrbuch der Hygiene des Auges, erste Hälfte*, Wien, 1891), after an excellent chapter on the ocular inflammations of the newly born, exclaims somewhat as follows: "If the prophylactic rules which have been mentioned in the previous chapter were exercised in the case of all mothers and all newly-born children, it is quite certain that no eye would be lost on account of blennorrhœa, and that hygienic measures would deserve the thanks for these brilliant results; that in Europe every year there would be thirty thousand fewer blind people; that in the blind asylums one-third of the inmates would disappear; and that over one hundred thousand persons who, as a result of blennorrhœa, have sustained more or less damage to their visual acuity, would have full sharpness of sight. Truly a state of affairs worthy of the labor of the noblest!" This quotation, somewhat freely translated, is, perhaps, as forcible a statement as could be made in regard to the value of *prophylactic* measures.

But if prophylaxis fails, or if the disease develops because this has been neglected, a consideration of the *curative* procedures is of paramount importance. Probably no one at the present time will dispute the fact that the successful treatment of ophthalmia neonatorum depends upon (*a*) the reduction of the inflammatory swelling of the lids; (*b*) the cleansing of the conjunctival cul-de-sac; (*c*) the use of a germicide which is free from deleterious effects upon the cornea; and (*d*) the instillation of those drugs which exert a favorable influence upon corneal ulceration, should this complication arise.

In a paper recently read before the County Medical Society

of Philadelphia, Dr. T. B. Schneideman advocated, among other remedies, the frequent irrigation of the conjunctival culde sac with a solution of bichloride of mercury, 1 to 2000, and reported excellent results. In almost every text-book, and in almost every communication that has appeared upon this subject in recent times, and, indeed, in times that are no longer recent, sublimate solution, in some form or other, and in some strength or other, has been recommended. In the early days it was employed because clinical observation seemed to give it a distinct value. In recent times its use has been based largely upon belief in its strong germicidal properties. This is not alone based upon clinical observation. Even in the strength of 1 to 10,000 it is said to materially retard the vitality of the gonococcus. Experimenting upon the staphylococcus pyogenes aureus and the typhoid bacillus, Weeks found that their vitality was destroyed in exposures of ten seconds to bichloride of mercury, 1 to 500; in exposures of forty-five seconds to bichloride of mercury, 1 to 1000; and in exposures of ninety seconds to bichloride of mercury, 1 to 2000. Hence there is strong experimental evidence in favor of sublimate solution in the treatment of a disease which owes its virulence to a certain variety of bacteria. Further confirmatory evidence might be obtained from an analogous use to which this remedy is put by the genito-urinary surgeons, and its property of staying the discharge in specific urethritis—a disease depending upon the same micro-organism for its existence as ophthalmia neonatorum.

Unfortunately for the line of argument the conditions in ophthalmia neonatorum, or in purulent ophthalmia of the adults, usually called gonorrhœal ophthalmia, do not permit bichloride of mercury to exercise freely the germicidal value which experience and experimentation have abundantly shown that it possesses. In the first place, the gonococci of Neisser are contained within the living cells, and more than this; owing to their peculiar penetrating properties, they pass deeply within the conjunctiva and even into the lymph-spaces of the subconjunctival tissue. It is unlikely that sublimate solution

in ordinary strength, or in strength suited to the eyes, under these circumstances, can come in contact for a sufficiently long time to exercise a distinctly depressing effect upon the vitality of these cocci. More than this, it has been stated that bacteria in the presence of albumin have the power to reduce this substance to calomel, and thus materially lessen, if they do not destroy, its properties.

But for the moment admitting that these are minor considerations, and perhaps unproven, and granting the great value of clinical observations on these points, the most important objection to the use of this drug in strong solution (*e. g.*, 1 to 2000, or even 1 to 3000) is the unfavorable influence which it may exert upon the vitality of the cornea. It is well enough to employ a drug which kills the bacteria, but it will not do to employ one which does this at the expense of the life of the cornea. Recent investigations have shown that bichloride of mercury (1 to 5000) is able to produce parenchymatous keratitis even in a normal cornea, provided it is applied after this has been incised and the anterior chamber opened. Now, in ophthalmia neonatorum the resisting power of this membrane is materially lessened, and consequently its power to withstand the irritating influence of any drug is proportionately decreased. It is of the utmost importance to keep the epithelial covering intact, and thus prevent the formation of ulcers. It is possible that bichloride of mercury in strong solution is capable of injuring the surface of the cornea sufficiently to bring about an untoward result of this character, and as there seems to be some doubt (and probably well founded) that it exercises an efficient germicidal influence, under the existing circumstances, it is pertinent to inquire why it should be used at all, or if it is used, why should it not be employed in very weak solution, and simply with the hope of acting as a well-conditioned cleansing agent.

After all, if destruction of the gonococci is accomplished by any of the various remedies which are introduced into the conjunctival sac during this disease, it is probable that nitrate of silver (almost universally used) accomplishes this feat. It is

true that this, in spite of powerful germicidal properties, cannot pursue the gonococci into the subconjunctival tissue, but it destroys the superficial layer of epithelial cells in which some of them are contained, and in addition exercises a valuable astringent and alterative effect. Moreover, it can be applied to the diseased surfaces without coming in contact with the cornea.

In point of fact, getting rid of the secretion by irrigation, which for the most part must be intrusted to attendents, and which is a most important part of the treatment of this disease, is simply a preparation of the inflamed conjunctiva for a topical remedy which is believed to exercise more or less of a specific action. If the surgeon chooses he may employ bichloride of mercury for this purpose and apply it only to the conjunctiva, as is done in some clinics with good success, and not in the form of copious irrigations. Even boracic acid solution which is practically without germicidal value, and which is of very indifferent antiseptic properties, has the advantage of being a good cleanser and is slightly astringent; hence, if it is used with this idea in view, and not to the exclusion of nitrate of silver or some other remedy of like action, it has a useful place in the therapeutics of this disease.

It may be objected to the views which have been expressed in regard to the action of bichloride of mercury and its probable deleterious influence upon the cornea that the drug is used with brilliant results in the treatment of allied conditions —*e. g.*, granular lids; used, moreover, when the cornea is softened and even ulcerated. Under these circumstances, however, the discharge, if present, is less virulent, the cornea has become inured to the presence of irritating influences, the vitality of the membrane is not in an equivalent stage of depression, and irrigations and local applications are made with much less frequency, and consequently exert a less depressing influence.

The whole point of the matter, and the whole idea of this communication, is to enter a protest against the belief that the use of bichloride of mercury lessens the physician's responsi-

bility, because he has employed a drug which rejoices in a germicidal reputation. He must not rest satisfied with this. He may employ it, indeed, he should employ it (in the judgment of the writer, in weaker solutions than have sometimes been advocated), but he should not neglect other methods, because he has introduced, or caused to be introduced, into the conjunctival cul-de-sac a remedy the exact physiological action of which under these circumstances is not accurately determined; a remedy, moreover, in regard to which there is a good deal of evidence to show that it may act as a double-edge tool.

REPORT OF A CASE OF TOTAL BLINDNESS, THE RESULT OF BRAIN TUMOR.—DIAGNOSIS VERIFIED BY THE AUTOPSY.[1]

BY J. C. DENISE, M.D.,

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Under date of November 23d, 1891, Dr. J. J. Evans, of Norden, Neb., wrote me for advice, in regard to a young man under his observation, who was totally blind, and suffering intense pain in the temples and back part of the head and neck. December 3d the patient entered the Presbyterian Hospital, accompanied by his wife, a young, intelligent school teacher, from whom the following history was obtained, and kindly furnished me by Dr. Henry.

Patient had good parentage, and good habits, and never had any sickness, except at the age of 12 years he had imflammatory rheumatism in both knees. Recovery was complete after three months. No subsequent attack of late; he had worked

[1]Reported to the Omaha Medical Society March 8, 1892.

a farm, but on account of hard times from drought and other causes, he came to Omaha last Winter and engaged with Swift & Co. to put up ice. While working in the ice-house he took cold, had headache, sore throat, pain in the temples and eyes, with profuse lachrymation. He was laid off from work only three days, when he was transferred to the oil room, and in a week's time considered himself as well as ever, with the exception of a slight pain in the temples, which has never left him. He continued to work, and about the last of March, when attempting to look at objects on the left, vision was obscured as though a scum was growing over the outer portion of the left eye, as he described it. In May while playing base ball he saw the ball double, rendering him a poor catcher. Vision in the left eye was now greatly impaired in all directions. In testing the eyes, separately, the vision of right eye was still good.

In August, the right eye began to fail just as the left had; that is, the right field was obscured. About the middle of October, the left eye became totally blind, and about a month later the right eye also became totally blind.

November 1st he fell from his pony, and it was thought he injured the back of his head, as he afterwards complained of more severe aching, and much stiffness in the back of the neck.

Dr. Evans, in his history, speaks of his cutting or sawing ice at the time that he noticed the vision failing, and attributed it to the bright light reflected from the ice. He suffered no pain then. The doctor further says that he suffered intense pain lately in the back of the head and in the temples, intensified at night. The pupils were enlarged, temperature normal most of the time, rising a little at night; pulse regular, about 70 per minute; bowels irregular, going three and four days without a stool; urine below normal in quantity, with large amount of albumen; feet were swollen some during the summer, swelling being worse in the morning.

Condition December 4, 1891, time of my first visit: I. H. Evans, æt. 19, married without issue, height 6 feet, weight 180 pounds, hair very black and thick over head, face, and body,

complexion dark, neck short and stout, nutrition apparently good, temperature normal, pulse slow, weak, irregular, afterwards quickening during the examination. Complains of headache over the forehead and back part, also of stiff neck and pain on turning the head. Requires extra clothing and artificial heat for comfort, is restless, will not sit still, and while lying down, tosses from side to side, rendering it difficult to keep him covered. Bowels constipated; urinates frequently, though in small quantity.

On examination of the eyes, the following was recorded. Conjunctivæ, scleræ and tension normal, both pupils dilated *ad maximum*. No perception of light by either eye.

Ophthalmoscopic examination with difficulty on account of the restlessness of the patient, but after several trials I was able to see the details of the fundus.

Left eye.—Media clear, optic disc red, its outline and margins barely discernable in limited section, arteria centralis and its branches diminished in size, veins tortuous. *Macula lutea* not observed.

Right eye.—Media clear optic disc very red, fuzzy; this condition extending beyond the optic nerve, and completely obliterating its margins.

Arteria centralis and branches somewhat attenuated, and veins tortuous and enlarged, two or more small, dark spots in the retina, as of hæmorrhagic origin. In fact we had the conditions known as *papillitis*—acut and progressive in the right retrogressive in the left, with atrophic degeneration.

No white spots, so characteristic of albuminuria, were discovered, though carefully looked for, on account of the previous history of albuminous urine. He denied syphilis to the last, nor were there any external conditions found to disprove his statement. On careful questioning of patient and wife, no discrasia was divulged among either his paternal or maternal ancestry.

The symptoms pointed clearly to an intra-cranial lesion, probably a tumor located somewhere in the region of the optic commissure and an unfavorable prognosis was given.

Dr. Henry, concurred in this opinion and subsequently Dr. Owen examined the patient, coming to the same conclusion.

The treatment consisted in excluding light from the eyes, regulating the bowels, remedies to give rest and sleep, and alterative absorbants. Morphine gave the best rest.

Ext. Jaborandi fl. was given every second night the first week, producing free perspiration and salivation. Considerable relief of head symptoms followed, and the soreness and stiffness of the neck disappeared. The nervous conditions also greatly abated.

After this, he was put on the biniodide of mercury 1–25 of a grain, three times a day, which produced its specific effect in about 48 hours, and was continued about a week, when the saturated solution of iodide of potash was substituted; commencing with 5 drops and increased till the daily allowance was 53 grains. Tonics were combined with this treatment all along, and liberal diet allowed, and all the disagreeable sensations were alleviated; pain subsided through the day, sleep was good through most of the night, and we began to entertain a faint hope that life might, at least, be prolonged, even through vision might not be restored, as there was no change in this respect. The pupils had been reduced in size by the use of eserine, but on its suspension, immediately expanded to their former abnormal size. Examinations of the urine were made several times, by Dr. Henry, the first within 24 hours after entering the hospital. In no instance was either albumen or sugar found; and with the exception of a large percentage of phosphates, it was in all respects normal.

About 6 p. m. of January 1, 1892, patient went into the bath room, just across the hall from his own quarters, and was found shortly afterward, prostrate on the floor in an apoplectic state. About three hours afterward he revived sufficiently to recognize a friend by his voice; got up on his hands and knees, turned himself in bed, and indicated by signs and groans intense pain in the head. He soon relapsed into a state of coma and general paralysis, remaining in that condition till death January 3.

At 5 p. m. of some day an autopsy was held, Drs. Henry and Owen kindly removing the calvarium, and rendering other valuable assistance. The venous vessels of the membranes were abnormally filled with dark blood. On lifting the anterior lobes, nothing unusual was observed, but on opening the fissure of Sylvius and lifting the middle lobes, a large effusion of blood was seen, partly fluid and partly clotted, and occupying, mostly, the left fossa, optic commissure and pituitary region. On carefully cleansing away this effusion, a foreign mass was found resting upon the commissure, and apparently involving the pituitary gland; this was removed in part, along with the chiasm and portions of each optic nerve, and subsequently sent to Dr. Hewitson for microscopic examination. The only other examination made was that of opening the ventricles. The third was partly filled with serum. The others were normal.

The following is an extract from Dr. Hewitson's report: "I find it to be a tumor, in size about that of an English walnut, grayish white in color, soft and spongy, and encapsulated by a thin fibrous envelope. On section, the center contains a cavity filled with cholesterine crystals and broken down fatty tissue.

"On microscopic examination, the tumor is found to be a "Glioma," which is undergoing sarcomatous and fatty degeneration. At several points beneath and around the capsule are found clots in various stages of organization." This report does not give the condition of the nerve substance, nor the relation of the tumor to its surroundings. I have verbal information, however, from the doctor, that the optic nerves were normal, that the commissure was infiltrated, and the tumor had its orgin from the pituitary body, and was lying upon the commissure.

OBITUARY.

JOSEPH HASNER, RITTER VON ARTHA. †

After a prolonged illness Hofrath Professor, JOSEPH HASNER, Ritter von Artha died at Prague, February 22, 1892. He was one of the most prominent men of the old Austrian School of Medicine. He was born at Prague, August 13, 1819. After having finished his studies at the gymnasium he studied medicine and graduated in 1840 at the University of Prague. For two years he was "Secundaerarzt" in the general Hospital of Prague, and in 1842, he was given Arlt's position as assistant in the Eye Clinic of Fischer.

After Fischer's death, his place was given to Arlt, and Hasner was made "ordinirender Arzt" in the hospital, and a small ward for eye patients was entrusted to him. In 1852, he was made professor extraordinarius, and in 1856 professor ordinarius, when this position became vacant by Arlt's removal to Vienna.

Before the time when the law requires it, and when not quite 70 years old, in 1884 Hasner resigned the professorship, since in order to found the Czech University, his clinic was divided in two. This procedure offended him so much, that he demanded the immediate release from his duties.

Four years ago the first signs of the disease which carried him away became noticeable. With him one of the most prominent of the older representatives of Ophthalmology is gone. As teacher, as well as physician, he ranks among the best of his specialty. His literary work was far above the average. The following were the larger works from his pen: *Entwurf einer anatomischen Begründung der Augenheilkunde*

(1847), (sketch of an anatomical foundation for ophthalmology); *Physiologie and Pathologie des Thraenenableitungs—Apparates* (1850), (Physiology and Pathology of the Lachrymal Drainage Apparatus); *Klinische Vortraege der Augenheilkunde* (1860-66), (Clinical Lectures on Ophthalmology); *Beitraege zur Physiologie and Pathologie des Auges* (1873), (Contributions to the Physiology and Pathology of the Eye); *Die Grenzen der Accommodation* (1875), (The Limits of Accommodation); Phakologische Studien (1870), (Phakological Studies); Das mittlere Auge in seinen physiologischen und pathologischen Beziehungen (1879), (The Middle Part of the Eye in its Physiological and Pathological Connections); Die Verletzungen des Auges in forensischer Hinsicht (1880), (The Injuries to the Eye in their Medico-legal Aspect). Aside from these he wrote many articles for the journals of a medical and ophthalmological nature, the majority of which may be found in the "*Prager medicinischen Vierteljahrsschrift*," of which he was one of the editors.—*Archiv fuer Augenheilkunde.*